

Taken at Birch Wood from the *Cistus Helianthemum* by Mr. S. Stevens, Mr. Smith and myself, from the middle of June to the middle of July ; also at Mickleham and Dorking off the same plant.

The *Bruchus tibiellus*, and the *B. debilis* of Schönherr and Stephens's 'Manual,' I have not been able to obtain sight of ; the cabinet of the first author appears to be without them ; from the descriptions I take them to be small varieties of the true *B. Cisti* of Fabricius.

BIBLIOGRAPHICAL NOTICES.

Anatomical Manipulation ; or, the Methods of pursuing Practical Investigations in Comparative Anatomy and Physiology. By Alfred Tulk, M.R.C.S., M.E.S., and Arthur Henfrey, A.L.S., M.Mic.S. Van Voorst. 8vo. pp. 414.

A SCIENTIFIC system of taxidermy and a guide for the zoologist in his anatomical inquiries have long been wanted by the British naturalist. We have hitherto had no work, professing to supply the requisite information, of any authority. Our anatomists who have written on those subjects have not been naturalists, and our naturalists, who, conscious of the necessity of such a guide as the volume before us, have assayed the task, have too often been ignorant of the very foundation of their science, the knowledge of structure.

The 'Anatomical Manipulation' of Messrs. Tulk and Henfrey is exactly the work required. It is based in part on the admirable treatise of Straus-Durckheim, than which a better groundwork could not have been selected. The original portion of the volume is equally excellent, and evidently executed with the greatest care and a thorough practical knowledge of the subject. The treatise on the microscope is full and clear, and in these days, when that instrument has become indispensable to the zoologist, this portion of the work is most welcome. The dissection and preservation of animal structures is entered into in the minutest manner, each system being treated of separately, and with respect to the several classes of animals. Much that relates to the invertebrate tribes is new, and evidently the result of original inquiries. The style of the whole is highly perspicuous, sufficiently full, and never prolix.

We rejoice to see such a work as this appearing among British naturalists, for other reasons besides its evident utility. We hail it as one of the symptoms which have appeared of late of a better state of things in the natural-history sciences in Britain. When the naturalist takes to anatomical manipulation he is in the right path. The discovery of the laws of structure, function and distribution, of affinity and of analogy, are the great ends of natural history, and to get at them we must pursue our researches anatomically and physiologically. The habits of animals and plants may be narrated but cannot be understood without reference to those laws. The "Peter

Parley" school of naturalists is fast becoming extinct, and with it its opposite, the purely technical. A more philosophical spirit is abroad, and we trust ere long naturalists will be able to hold up their heads on an equality with astronomers and mathematicians. Gladly we hail in the authors of the volume before us fresh aspirants to scientific honours, working in the right way; they have already done good service, and their book should be constantly open on the table of every zoologist.

Entwicklung des Hummereies, &c.:—On the Development of the Ovum of the Lobster. By Dr. M. P. Erdl. Munich, 1843.

To those who are acquainted with the elaborate researches of Dr. Rathke upon the development of the river Cray-fish, the present treatise will be one of peculiar interest, from its furnishing a parallel history in respect to another species of the genus *Astacus* so closely allied to the above. It would be impossible however, within the limited space allotted in our Journal, to do justice in an abstract to the masterly and lucid details which our author has given us upon this subject; their general bearing will be best understood by a careful perusal of the work itself, and a comparison of the text with the four beautiful coloured quarto plates, illustrating chiefly the early periods of embryonic existence, *i. e.* prior to the exclusion of the young lobster from the egg; periods which, according to Dr. Erdl, have been hitherto passed over in silence by most writers. We shall be content therefore with noticing those facts only which will be best appreciated by the general reader.

"It is well known that the eggs of crabs, when they have issued from the sexual orifice of the female, become attached to her sub-abdominal false legs, the inner and outer edge of which chiefly are fringed with hairs placed near to each other like the teeth of a comb. The fastening of the eggs takes place in the following manner:—While the eggs are being laid, or even before they reach the external sexual aperture in such crabs as *Maja*, where the oviduct is very short, they have to pass the orifice of a thick sac opening into the lowest part of the oviduct, and which is enlarged at the time of laying and filled with a tenacious slimy fluid. At the very instant in which the eggs are propelled through the oviduct, this slime is pressed out of the sac over the eggs, so that they come out covered with it. In other Crustacea (*Astacus*) this sac is wanting, and the oviduct appears large enough to furnish a sufficient quantity of viscous fluid from its internal surface. Upon coming in contact with the water the slime immediately hardens and forms a covering round each egg, which, by the contraction of the tail upon the false feet and their hairs, become pressed together, and adhere not only to the extremity but the whole length of the latter. The tail is again extended after the eggs are laid and attached, and they then sink down slightly by their own weight, so that the slime is lengthened out and thus forms a cord passing from the hairs to the ova, where it diverges to be continued over them as an external envelope. The cord being hardened

collapses throughout: its outer surface is thrown into many irregular folds, which give it an appearance as if composed of fibres; and it is frequently rolled up spirally. The folds generally radiate upon the upper part of the egg and become lost in its external covering."

Still more interesting is the important physiological fact, observed by Dr. Erdl, "that the nerves take their origin from the central ganglions in the form of simple loops which are prolonged into the rudimentary parts of the body, and that as they become developed, secondary loops proceed from these primary, and produce in their turn tertiary loops, and in this manner the nerves are distributed wherever they are met with. It is thus evident that their ultimate termination must be looped also, and finally that each nerve proceeding from its centre to the periphery of the body returns without any interruption in the reverse direction."

In the last part of the treatise, which is devoted to a consideration of the differences in the progress of development in different crabs, the author agrees with Rathke in regarding the lobster as lower in the scale of creation than the cray-fish; and then contrasting the development of the *Brachiura* and *Macrourea* with each other, he observes that the latter must rank as the inferior of the two, "since in them the peripheral parts of the body, such as the tail and claws, are most extended and predominant, acquiring great dimensions over the rest, while in all their movements they exhibit a certain clumsiness and helplessness, and in the *lobster* a great stupidity of the senses. The *Brachiura*, on the contrary, move rapidly both sideways as well as backwards and forwards, are dextrous and strong in all their limbs, and from their sharpness of sight, hearing and taste, are elevated above all the other Crustacea. Even the mode in which they seek their food places them before the *Macrourea*. Thus I have observed in many parts of the Mediterranean Sea, how the *Cancer Mænas* provides itself with nourishment from some small *Balani* which often project by thousands their calcareous valves above the surface of the water. It gets slowly above them, sticks its sharp claws first into this, then into that shell, drags out with them the animal, and conveys it thus to the mouth. It seems very often to play with small round stones and empty snail-shells like a cat with a ball. I could never observe anything similar either in the large or smaller species of *Macrourea*."

The Botany of the Voyage of H.M.S. Sulphur; edited by R. B. Hinds, Esq. The Botanical descriptions by G. Bentham, Esq.

This is the first number of a work published under the authority of the Lords of the Admiralty, and bids fair to be one for assisting in the publication of which they will deserve the thanks of all botanists. The voyage of the *Sulphur* extended through six years, during which Mr. Hinds had the opportunity of examining a very considerable portion of the west coast of America, more especially the northern part; several of the islands of the Indian seas; a portion of the coast of China, &c. He more especially turned his attention to the study of the geographical distribution of plants, to his valuable treatise

upon which subject, contained in Sir E. Belcher's Narrative of this Voyage, we have already directed the attention of botanists.

The present number is chiefly occupied with part of the flora of California, but contains also some highly valuable remarks upon the climate, &c. of that country and the north-west of N. America. The botanical descriptions being drawn up by Mr. Bentham, in whose hands the collections have been placed, is a sufficient guarantee for their accuracy and value. There are ten well-executed lithographic plates in this number; the succeeding parts, to appear quarterly, are not expected to exceed six.

Supplement to English Botany. Second Series. Nos. 1—3.
London, 1843—44.

We have much pleasure in directing the attention of our botanical friends to the commencement of a new series of this valuable work. To praise the beauty and accuracy of the plates would be quite a "work of supererogation;" in those respects it is allowed to be unrivaled. As was the case in the former series of this Supplement, the descriptions which accompany the plates are written by some of our best-known botanists; the authors of those in the three numbers before us are Mr. W. Wilson, Rev. M. J. Berkeley, Mr. C. C. Babington and Mr. Borrer.

The death of Mr. C. E. Sowerby, its proprietor, having caused the premature conclusion of the third volume of this Supplement, the present new Series has been commenced by Mr. J. D. C. Sowerby, the distinguished artist, to whose pencil we are indebted for the plates contained in the preceding volumes.

As this work does not now produce any profit to its proprietor, we take the liberty of calling upon botanists to come forward with their support, for it seems to us to be disgraceful that so truly national a publication should be allowed to languish through the neglect of those from whom its proprietor has the justest right to look for encouragement. It is intended to publish a number each alternate month, to contain four coloured plates with the requisite descriptive letter-press. It may be as well to add, that abundant materials exist to make the future numbers quite as interesting as any of the preceding, and also, that the plates of this new Series will not be republished in the small edition of 'English Botany,' the two works now belonging to different persons.

Histoire Naturelle des Zoophytes:—*Acalèphes*, par René-Primevère Lesson, Membre correspondant de l'Institut de France, &c. Ouvrage enrichi de douze planches. Paris, 1843. 8vo. pp. 596.

In the compilation of this volume the scissors have been of as much service as the pen. The result has been a patch-work in which every borrowed piece has been put together after a pattern of the author's own, but not very skilfully. Hence the book is less adapted for continuous perusal than for occasional consultation and reference, but for the latter purpose it is a very useful magazine: for it contains

the views and opinions and knowledge of a very great number of authors on the history of the *Acalèphes*; and these are given very fully either in the author's own words, or in accurate and entire translations of them; so far, at least, as translations were accessible to the compiler, who acknowledges that his ignorance of the German language prevented him from making the use of works written in that language which he would otherwise have done. Besides being a repertory of everything pertaining to the anatomy, physiology, habits and classification of these frail, fugitive and most singular animals, we have in it a notice of every species that had been described up to the period of publication, and this notice is as complete as existing materials allow it to be made. Upon the whole we can recommend the work as a cheap and convenient collection of many widely scattered facts and opinions, and as a complete epitome of our knowledge of the species.

PREPARING FOR PUBLICATION.

The Illustrated Genera of Birds, by Messrs. Geo. Gray and D. W. Mitchell, is in active preparation. Part I. will appear with the Magazines on the first of May.

It is proposed in this work to give complete characters of all the genera in Mr. Gray's list of 1842, with a catalogue of the species referable to each of them. As this will include a note of the original descriptions and figures, it will serve in some measure as a general index to ornithological literature. The size and number of the illustrations will prevent the necessity of an inconveniently reduced scale; and the juxtaposition of nearly allied generic forms on the same plate will afford sufficient proof, in the absence of actual comparison of specimens, of the real or imaginary value of the distinctions which previous authors have established, or sought to establish, between them.

Johnsoni Itinera Botanica, Cantiana Hamstedianaque, MDCXXIX & MDCXXXII.

This work, the original of which is excessively rare, will be so printed as that the English translation (with which it is intended to be accompanied) shall occupy the page opposite to the Latin text.

Much interest attaches to this curious production, which furnishes a detailed record or journal of, probably, the earliest botanical excursion undertaken by the Apothecaries' Company.

Among the places visited are the following:—Erith, Dartford, Gravesend, Rochester, Sheppey, Faversham, Canterbury, Margate, Sandwich and Deal; Kentish Town, Highgate and Hampstead. The portions referring to Hampstead include Caenwood, Hampstead Heath, and the adjoining fields.

There will be appended Mr. Irvine's list of Hampstead-Heath Plants, for the purpose of giving a comparative view of the present with the former state of the botany of this latter district.

Facsimiles of the exceedingly curious Illustrations will be given, and the text will be translated faithfully verbatim, by Mr. Irvine, author of the 'London Flora.'